PROMINEO TECH

Syllabus: Front End Software Developer

Contents

Program Objectives

Week	Objectives
1 – Intro to JavaScript	Students will: Learn to navigate using the CLI; Understand and implement source control principles and workflows using Git and GitHub; Understand, at a high level, what programming is; Learn about JavaScript and its place in the technology world; Learn about variables and data types; Learn common variable operations.
2	Students will: Learn Boolean logic; Learn how to use Boolean logic in Java conditional statements; Learn how and when to utilize different loops; Learn how to read and respond to user input.
3	Students will: Learn how and when to use arrays; Learn how to modularize code using functions; Learn how to use preexisting JavaScript Objects and their methods and properties; Learn how to read and understand JavaScript documentation; Learn the difference between === and ==.
4	Students will: Learn ES6 concepts such as arrow functions, template literals, let, and const. Learn about JavaScript single threaded processing and callbacks. Learn about Promises.
5	Students will: Study Object Oriented Programming (OOP)

	principles; Learn how and when to create classes; Learn how and when to utilize class inheritance; Understand exceptions and how to handle them.
6	Students will: Learn how to access Chrome DevTools. Learn how to use the debugger and other debugging skills; Learn about unit tests, Test Driven Development (TDD), and how to write unit tests.
7 – Front End Technologies	Students will: Learn how to use HTML to structure a web page; Understand the difference between elements, attributes, and tags. Build a simple website.
8	Students will: Learn how to use CSS to style a web page; Study the Box Model; Learn about inline, internal, and external styling and which is best; Learn about pseudo classes.
9	Students will: Learn how to use 3rd party styling libraries such as Bootstrap; Use Bootstrap components; Learn about responsive web design.
10	Students will: Gain an understanding of the Document Object Model (DOM); Learn how to use JavaScript to interact with the DOM; Build a dynamic website.
11	Students will: Learn how to use JQuery to enhance DOM traversal; Learn how to use AJAX and HTTP requests; Refactor a website to use JQuery instead of vanilla JavaScript.
12	Students will: Work in a team setting to build a full CRUD client based on a supplied web API.
13 – Capstone Course: Web App Design	Students will:

with ReactJS	Install npm or yarn to manage packages; Learn how to use create-react-app to start a React project; Learn why React is used in the industry; Learn about the virtual DOM; Learn about the createElement method.
14	Students will: Learn how to create React Components; Understand JSX; Learn about React props; Learn about life cycle methods.
15	Students will: Learn how to create functional components; Learn about higher order components (HOC); Improve existing skills by working on the Final Project.
16	Students will: Learn how to use the fetch method to make HTTP requests; Build a full CRUD application using a supplied web API; Improve existing skills by working on the Final Project.
17	Students will: Gain a high-level knowledge of Redux and state management. Improve existing skills by working on the Final Project.
18	Students will: Learn about Amazon Web Services (AWS) console and features; Deploy applications to AWS Elastic Beanstalk; Improve existing skills by working on the Final Project; Prepare and present their Final Project.

Grading Breakdown

Below is a breakdown of the assignments and quizzes that make up your final grade. The minimum grade required to successfully pass the program is a C or 70%, students must also complete and turn in each assignment to pass.

Week	Assignment	Points	% of Total Grade

1	Research Topics	30	1
1	Coding Project	70	2.5
2	Research Topics	30	1
2	Coding Project	70	2.5
3	Research Topics	30	1
3	Coding Project	70	2.5
3	Quiz	100	3.5
4	Research Topics	30	1
4	Coding Project	70	2.5
5	Research Topics	30	1
5	Coding Project	70	2.5
6	Research Topics	30	1
6	Coding Project	70	2.5
6	Quiz	100	3.5
7	Research Topics	30	1
7	Coding Project	70	2.5
8	Research Topics	30	1
8	Coding Project	70	2.5
9	Research Topics	30	1
9	Coding Project	70	2.5
9	Quiz	100	3.5
10	Research Topics	30	1
10	Coding Project	70	2.5
11	Research Topics	30	1
11	Coding Project	70	2.5
12	Research Topics	30	1
12	Coding Project	70	2.5
12	Quiz	100	3.5
13	Research Topics	30	1
13	Coding Project	70	2.5
14	Research Topics	30	1
14	Coding Project	70	2.5
15	Research Topics	30	1
15	Coding Project	70	2.5
15	Quiz	100	3.5
16	Final Project Work	100	3.5
16	Scrum Retro	50	1.8
16	Root Cause Analysis	50	1.8
17	Final Project Work	100	3.5
17	Scrum Retro	50	1.8
17	Root Cause Analysis	50	1.8
18	Final Project Work	100	3.5
18	Project Retro	50	1.8
18	Demo	300	10.5

Research Topics

Research Topics are an informal essay that requires the student to research the topics presented in the lesson and find resources to deepen their understanding of said topics. The technology industry is based on constantly searching for information; these assignments are developed to help students acquire the skills necessary to be successful as a developer in this aspect. Research Topics account for 15% of your total grade.

Rubric

Category	Criteria	% of Grade
Accuracy	Is the information accurate?	25
Organization	Is the essay clean and organized? Ideas are presented in a logical order.	25
Citations	Students reference and cite at least 5 sources.	25
Completeness	All requirements of the assignment are complete.	25

Coding Projects

The weekly Coding Projects are a vital component of the program and are worth an accumulative 37.5% of your overall grade. These assignments afford students hands on experience with the subject matter and help students develop the skills necessary to become proficient developers.

Rubric

Category	Criteria	% of Grade
Functionality	Does the code work?	25
Organization	Is the code clean and organized? Proper use of white space, syntax, and consistency are utilized. Names and comments are concise and clear.	25
Creativity	Student solved the problems presented in the assignment using creativity and out of the box thinking.	25
Completeness	All requirements of the assignment are complete.	25

Quizzes

The quizzes within this program are designed to demonstrate mastery of the topics covered. The quizzes are open book, internet, and all other resources *except* other students. Questions on the quizzes are to be answered solely by the student. While the quizzes are open book, plagiarism is not acceptable. If a student finds an answer to a question, he/she must express the answer in his/her own words or code. Do not copy and paste. Quizzes account for 17.5% of your total grade.

Final Project

The Final Project is the culminating activity of the program. It is used to demonstrate mastery of the learned materials, as well as the ability to apply the knowledge and skills learned throughout the program. The Final Project, along with all it's components, is worth 30% of your final grade. The Final Project spans over the last 3 weeks of the program. This project may be a group project or individual project based on your instructor's discretion. The instructor may assign you a project or allow you to choose your own subject to instructor approval. The Final Project is broken up into 5 distinct categories – Final Project Work, Scrum Retro, Root Cause Analysis, Project Retro, and the Demo.

Final Project Work

The Final Project Work is the actual coding of the project. It is graded as follows:

Category	Criteria	% of Grade
Functionality	Does the code work?	25
Organization	Is the code clean and organized? Proper use of white space, syntax, and consistency are utilized. Names and comments are concise and clear.	25
Creativity	Student solved the problems presented in the assignment using creativity and out of the box thinking.	25
Completeness	All requirements of the assignment are complete that were committed to for the given week.	25

Scrum Retro

Scrum Retro (retrospective) is a written assignment that allows the student to use Agile tools and processes to analyze the previous week and identify areas for improvement as well as areas of accomplishment.

Category	Criteria	% of Grade
Areas for Improvement	Student identified true areas for improvement as well as plans to make improvements a reality.	25
Areas of Accomplishment	Student accurately identifies areas that he/she succeeded in and outlines plans to continue the success.	25
Organization	Thoughts are concise and clear.	25
Critical Thinking	Student shows deep thought in the expressed ideas.	25

Root Cause Analysis

The Root Cause Analysis is a written assignment that requires students to identify difficulties encountered during the project phase and use critical thinking and research to identify the root cause of the difficulties, as well as the resolutions to the problems.

Category	Criteria	% of Grade
Critical Thinking	Student identifies difficulties and blockers met during the week's project and shows an understanding of why they occurred. Student exhibits problem solving skills by following the problem to the root cause and identifying solutions to overcome the problem.	34
Citations	Student references sources used to overcome the issues outlined.	33
Organization	Thoughts are concise and clear.	33

Project Retro

The Project Retro is similar to the Scrum Retro, but focusses on the entire project and the student's goals moving forward.

Category	Criteria	% of Grade
Areas for Improvement	Student identified true areas for improvement as well as	25

	plans to make improvements a reality.		
Areas of Accomplishment	Student accurately identifies areas that he/she succeeded in and outlines plans to continue the success.		25
Organization	Thoughts are concise and clear.		25
Critical Thinking	Student shows deep thought in the expressed ideas.		25

Demo

The Demo is the pinnacle of the program. It provides the student an opportunity to present the culmination of everything learned and applied throughout the program and the Final Project phase. The Demo will be a live presentation to an audience, including the professor, and will be graded based on the following criteria.

Category	Criteria	% of Grade
Presentation	Student presents well through tone, annunciation, and professional mannerisms.	20
Engagement	The presentation is exciting and engaging. Student avoids monotone speaking. Visuals are utilized and show creativity.	20
Organization	Presentation is concise and clear; the progression makes sense and is easy to follow.	20
Functionality	Completed features work as intended.	20
Completeness	All main features are complete and present in the demo.	20

Late Policy

Assignments turned in late will result in a 10% deduction of points per day past the due date. After ten days, no points will be awarded for the assignment. However, every assignment must still be turned in to pass the program.